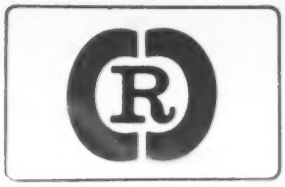
HG370 - I . 14 #



Credit
Research
Center

WORKING PAPER NO. 40

Impact of a Ten Percent Usury Ceiling: Empirical Evidence

1981

Krannert Graduate School of Management – Purdue University

THE CREDIT RESEARCH CENTER, established in 1974, is a publicly supported, nonpartisan research and educational organization. Its purpose is to stimulate and support unbiased research in the field of consumer and mortgage credit and to further the educational purposes of the Krannert Graduate School of Management, Purdue University. The Center's research focuses upon issues relevant to the credit industry, consumers and governmental bodies. The center operates as a nonprofit organization within Purdue University. The publications of the Credit Research Center take three major forms:

1. Working Papers. Preliminary drafts of research studies prepared for comment and criticism.
2. Reprints. Journal articles and other publications authored by the staff of the center or researchers aided by the center.
3. Monographs. In-depth research studies in the fields of consumer and mortgage credit.

The Credit Research Center has available a continually updated computerized bibliography covering consumer credit and mortgage credit. Citations include journals, books, theses, hearings, government publications, and proceedings. Additional information about the bibliography may be obtained by writing CRC, Krannert Graduate School of Management, Purdue University, West Lafayette, Indiana 47907.

GOVERNING BOARD

Keith V. Smith, Dean
Krannert Graduate School of Management
Purdue University

Robert W. Johnson
Director, Credit Research Center
Purdue University

Albert V. Hogan
Manager of Credit
Shell Oil Company Credit Card Center

Richard S. Levitt
President
Dial Corporation

E. Scott Maynes
Chairman, Department of Consumer Economics and Housing
Cornell University

Leonard F. O'Connor
Vice President
The First National Bank of Boston

R. Bruce Ricks
Lecturer, Graduate School of Business
Stanford University

Robert Shay
Professor of Banking and Finance
Graduate School of Business
Columbia University

J.V. White
Executive Vice President
Equifax, Inc.

STAFF

Robert W. Johnson, executive director
William C. Dunkelberg, associate director
Richard L. Peterson, senior research scholar
John J. McConnell, associate professor and research associate
A. Charlene Sullivan, assistant professor and research scholar

IMPACT OF A TEN PERCENT USURY CEILING: EMPIRICAL EVIDENCE

Richard L. Peterson and Gregory A. Falls*

Abstract

Arkansas provides an excellent case study of the effects that restrictive rate ceilings have on consumer financial markets. The Arkansas ten percent usury law is the most restrictive in the nation, and it has been in force long enough for its effects to be fully realized. Thus, this study analyzes the behavior of consumers and creditors in Arkansas to determine how, if at all, their behavior differed from that of consumers and creditors located in other states.

The empirical tests of this paper were based on comparisons between the behavior of consumers and creditors in Arkansas and the behavior of consumers and creditors in states with higher rate ceilings. Some surprising results were found. For instance, while loan terms were generally more restrictive in Arkansas, this was not always the case. Loan sizes were larger and maturities shorter, but downpayment requirements were not significantly different in Arkansas than in states with less restrictive ceilings. In addition, while a higher percentage of Arkansas consumers reported being rejected for credit, many Arkansas creditors reported relatively low credit rejection rates--possible because rejected consumers shopped fewer sources for credit in Arkansas due to low, or

*The authors respectively, Associate Director and Research Assistant, Credit Research Center, Krannert Graduate School of Management, Purdue University. This study was funded by the National Science Foundation grant DAR77-20041. Robert W. Johnson and A. Charlene Sullivan provided helpful comments. However, any opinions, conclusions, or errors contained herein are the sole responsibility of the authors and do not necessarily represent the views of NSF, CRC or Purdue University.

Copyright © 1981 by Credit Research Center, Krannert Graduate School of Management, Purdue University, West Lafayette, Indiana 47907

zero, variations in rates. Also, in spite of the fact that a higher percentage of consumers in Arkansas reported past credit rejections, overall, Arkansas consumers had acquired just as much debt as residents of other states. They were able to obtain the same amount of credit because, even though they held significantly less cash credit, they held significantly more credit originated at the point-of-sale (by dealers or credit-card issuers).

The structure of the Arkansas credit market was affected by the usury law. Small loan credit was not readily available because consumer finance companies had discontinued operations, and banks and credit unions often refused to make small loans. As a result, Arkansas pawnbrokers proliferated. In addition, consumers, particularly high-risk consumers, more frequently used credit originated by retail dealers. Dealers, in turn, sold their credit paper on less advantageous terms to creditors than was the case in other states. Presumably, they could afford to do so only by raising prices of retail goods. However, data obtained in this study were not adequate to determine if prices of credit-related durable goods were higher in Arkansas than elsewhere.

IMPACT OF A TEN PERCENT USURY CEILING: EMPIRICAL EVIDENCE

Richard L. Peterson and Gregory A. Falls*

I. Introduction

Much has been written on the potential effects that rate ceilings have on consumer credit markets.[1] In addition, numerous empirical studies have analyzed the impact of rate ceilings on mortgage loans and housing construction markets.[2] However, the empirical impact that loan rate ceilings have on consumer financial markets in general has not been well documented. Such documentation is needed, however, because most theoretical models of consumer loan markets cannot predict with certainty the precise consequences of restrictive rate ceilings.

A major problem involved in documenting the effect of restrictive rate ceilings on consumer financial markets is that possible effects are highly diverse. There are many margins of adjustment along which both creditors and consumers can adjust their behavior in response to rate ceilings. Thus, even though potential margins of adjustment can be specified theoretically, an empirical investigation is needed to determine what the actual effects of consumer credit rate ceilings are likely to be.

This study tests various theoretical propositions by comparing the behavior of consumers and creditors located in Arkansas which, at the time of the survey had a nearly universal ten percent usury law, with the behavior of creditors and consumers located in states with less restrictive rate ceilings.

The data used in the study were obtained as part of an extensive study sponsored by the National Science Foundation of the impact of rate ceilings and restrictions on creditors' remedies on consumer financial markets. In the study, four well-defined local credit markets with generally similar socio-economic characteristics, but far different consumer regulations, were selected for intensive study. Those markets were: Little Rock/North Little Rock, Arkansas; Racine/Kenosha, Wisconsin; Waukegan/North Chicago, Illinois; and Lake Charles, Louisiana. In each market, interviews were conducted with nearly every bank and savings and loan association, half of all finance companies and credit unions, a sample of credit-holding retailers, and a large sample of consumers.

In total 3,572 consumers were interviewed. The sample frame called for interviews to be conducted with 1,000 consumers each in the Illinois and Wisconsin markets as those areas had the most similar socio-economic characteristics and the least similar legal environments (rate ceilings were generally high and creditors' remedies were relatively unrestricted in Illinois while the reverse was true in Wisconsin). It also called for 750 interviews to be conducted in both the Arkansas market (where the ten percent usury law severely restricted loan rates while creditors' abilities to collect on defaulted debts were relatively unrestricted) and the Louisiana market (where creditors' abilities to collect on defaulted debts were highly restrictive but consumer credit rate ceilings were generally relatively high). All interviews of both consumers and creditors were conducted in early 1979, when the Arkansas rate ceiling was substantially below rates of charge on consumer credit offered elsewhere.

The fact that data were collected simultaneously from both consumers and creditors made it possible to test various propositions from both the credit supply and credit demand side of the market. In many cases the data provided insights that otherwise would not have been available.

II. Impact of Rate Ceilings on Consumer Credit Markets

Theoretically, effects of restrictive rate ceilings on the consumer financial markets are many and diverse. Creditors can adjust to restrictive ceilings in numerous ways. Consumers also can adjust to their modified environment in a number of different ways.

A. Creditor Adjustments

The creditors' problem is to establish policies for rates, fees, credit terms, credit availability, and related product pricing that generate maximum profits. If rate ceilings prevent creditors from charging the most advantageous rate, they can make numerous possible adjustments in an attempt to earn adequate profits in spite of the rate constraint. Such adjustments can include:

(1) Adjustments in credit-related fees. Application fees, credit investigation fees, or appraisal fees (for real property) can all be adjusted in lieu of rates.

(2) Adjustments in credit availability. Credit can be denied to riskier customers, or offered only on restrictive terms that have the effect of reducing credit demanded by riskier potential borrowers. In the extreme case of credit denial, lenders who specialize in making loans to risky customers may either refocus their efforts so they lend only to low-risk customers or discontinue their operations entirely.

(3) Adjustments in credit terms. Such adjustments could include: increasing downpayment, collateral, or cosigner requirements; shortening maturities; or refusing to make loans for less than a (large) minimum size. Increasing downpayment, collateral, and cosigner requirements reduces defaults and credit collection costs. Raising minimum loan size requirements reduces loan origination and collection costs per dollar of credit extended (see Peterson [22]). Both types of policies may make it harder for low-income, high-risk potential borrowers to qualify for credit.

(4) Adjustments in terms and prices on credit-related products. Retail creditors can adjust the prices that they charge on credit-related products. Further, creditors that buy credit from retail dealers can adjust the terms on which they buy such credit to reduce their risk or increase their returns. In addition, depository institutions may impose requirements that borrowers be depositors and alter nonrate fees charged depositors or others deemed eligible to borrow at the statutory rate. For instance, bank "preferred depositor" memberships could be sold that made the member eligible for safety deposit boxes, free checking, and auto loans on terms that would not otherwise be available to the depositor. Finally, other credit-related services, such as credit insurance, possibly could be marketed at a premium price and sold as a condition for obtaining credit.

B. Consumer Adjustments

Consumers, too, can adjust to restrictive rate ceilings in various ways. They can adjust their credit use, their credit composition, or their credit search efforts.

(1) Adjustments in credit use. Consumers who find they still can obtain credit where rate ceilings are low may find it less costly relative to cash purchases than consumers in higher-rate states. Thus, they may expand their consumer credit use relative to the amount they would have have acquired at higher rates. This is particularly likely to be the case for low-risk customers who might find themselves able to pay low rates (without incurring search costs to find creditors specializing in low-risk, low-rate credit) in states with restrictive rate ceilings.

Consumers who were rationed out of the cash credit market might use less credit or seek alternative credit sources. If their transactions costs of searching for suitable credit sources exceeded the reduction in credit rates, their aggregate credit use likely would be reduced.

The aggregate impact of rate ceilings would depend on the relative importance of these two effects. If greater credit use at lower rates by qualifying customers exceeded reductions in credit use by rationed customers, total credit use might increase. Otherwise it would decrease.

(2) Adjustments in credit composition. Consumers who were rationed out of the cash credit markets might alter their sources of credit. In particular, they might seek to obtain credit from retail dealers who could mark up the price of goods to compensate for low rates of return on credit balances. Other consumers might substitute relatively cheap and flexible consumer credit for other forms of credit[3] in states where rate ceilings hold consumer credit rates down. Further, consumers may adjust the forms of credit they hold if (for instance) they cannot obtain small cash loans because of low rate ceilings.

(3) Adjustments in credit search. Consumers may search less for credit in a state with uniform rates because rate variance is low. However, more consumers in such a state may be forced to search for credit if the low rate ceiling causes credit rejection rates to rise.

III. Empirical Findings

For both consumers and creditors many avenues of adjustment to low consumer credit rate ceilings are available. Different avenues may be chosen by differently situated individuals and creditors. Thus, it is of interest to determine how creditors and (differently situated) consumers actually respond to low rate ceilings.

Creditor and consumer data collected in all four survey states in 1979 were analyzed for this study. The Arkansas ten percent rate ceiling was, by far, the most restrictive rate ceiling of all. In Wisconsin, where rate ceilings were also relatively low, average loan rates frequently approximated rates charged on similar contracts in Illinois, where rate ceilings were not highly restrictive. Thus, throughout this study, all information for Wisconsin, Illinois, and Louisiana was pooled and contrasted with equivalent information on the behavior of consumers and creditors in Arkansas.

A separate analysis of behavior in Arkansas and Louisiana was also conducted, since both are Southern states with similar cost-of-living conditions, and Louisiana provides the most extreme contrast in rate ceilings. However, because the Arkansas-Louisiana comparisons were highly similar to the more comprehensive Arkansas-"all other" comparisons, only the latter data are reported in this study.

A. The Price of Credit

Table 1 summarizes data on consumer credit rates charged in Arkansas as compared to similar rates in other states. With the exception of some rates charged by Federal credit unions (which had a nationally applicable rate ceilings of 12 percent regardless of their state of location), rates charged in Arkansas were significantly lower than rates charged in other states.

When banks were asked if they took any action in response to the rise in market interest rates that had occurred in the "past year," 21 of 24 banks outside of Arkansas reported that they had increased loan rates, while none of the Arkansas banks had done so. The evidence suggests that the Arkansas banks took other action (Table 2) to offset the effect of rising rates. Four of the seven Arkansas banks reported they they had limited credit to depositors, while others reported that they had reduced credit availability or restricted loan terms. In contrast, in other states only one of the three banks that did not raise rates, altered its consumer credit policies in response to its rising costs of funds.

Table 3 presents information on fees charged for credit evaluation and property appraisal in Arkansas versus other states. While those charges were uniformly higher in Arkansas, only credit investigation charges were significantly higher in Arkansas than in the other states.

TABLE 1

CREDIT RATES IN ARKANSAS VS. CREDIT RATES IN OTHER SURVEY STATES (WISCONSIN, ILLINOIS, LOUISIANA)

Loan Type	AR	Other States	t-Value
Commercial Banks: Most Likely Rate			
36 month new car	10.07	10.95	7.98*
36 month used car	10.07	12.44	12.25*
48 month new car	10.00	11.52	14.35*
48 month used car	10.00	11.94	8.87*
12 month, $1000, uns. personal	10.07	14.13	10.63*
24 month, $2000, uns. personal	10.07	13.65	11.71*
24 month, $2000, secured	10.08	13.58	8.69*
First mort. 10-19% down	9.75	10.50	.98
First mort. 20-29% down	10.06	10.33	1.26
Savings and Loan Associations: Most Likely Rate			
First mort. 10-19% down	9.50	10.62	4.31*
First mort. 20-29% down	9.70	10.38	3.95*
State Credit Unions: Most Likely Rate			
36 month new car	10.00	11.10	4.10*
36 month used car	10.00	11.68	8.69*
48 month new car	10.00	11.48	6.63*
48 month used car	10.00	11.92	24.00*
12 month, $1000 uns. personal	10.18	11.92	9.24*
24 month, $2000, uns.secured	10.25	11.74	4.08*
Federal Credit Union: Most Likely Rate			
36 month new car	10.78	11.15	.76
36 month used car	11.28	11.73	.89
48 month new car	10.70	11.12	.60
48 month used car	12.00	11.60	-1.00
12 month, $1000, uns. personal	11.77	11.86	.34
24 month, $2000, uns. personal	12.00	11.85	-1.00
24 month, $2000, secured	12.00	11.70	-1.53

TABLE 1 (continued)

Indirect Auto Credit (Creditor Rate)			
Loan Type	AR	Other States	t-Value
Commercial banks - 36 mo. new car	10.16	10.80	1.84*
Commercial banks - 24 mo. used car	10.16	11.82	2.47*
Auto finance companies - 36 mo. used car	10.00	12.71	N.A.
Rates Reported by Consumers			
Main family car	9.99	10.78	4.45*
First mentioned durable good	9.98	14.27	6.66*
First mentioned hobby & recreation credit	10.35	12.24	2.65*
First mentioned home improvement credit	9.61	10.85	3.95*
"Other" credit (first mention)**	9.30	12.23	8.51*

*Significantly different at the 10 percent confidence level.

**Includes student loans at subsidized rates.

SOURCE: CRC 1979 Consumer Financial Survey and CRC 1979 Creditors Surveys (see Footnote 4).

TABLE 2

COMMERCIAL BANK ADJUSTMENTS TO RISING MARKET RATES

	Raised Rates	Did not Raise Rates	Did not Raise Rates: And Did Nothing Else	Did not Raise Rates: But Took Other Action
Arkansas Banks	0	7	1	6
Other Survey Banks	21	3	2	1

SOURCE: Peterson and Hancock [26].

TABLE 3

FEES AND CHARGES

Mortgage Credit Fees	Average AR	Average Other	t-Value
Commercial banks			
Appraisal Fees	$88.33	$62.52	1.60
Credit investigation fees	23.33	11.57	2.83*
Savings and loan Associations			
	$87.50	$71.66	0.99
	18.33	10.35	1.22

Bank Check Charges

	Group Means		Group Variance		
Minimum Balance	AR	Other	AR	Other	t-Value
0-99 dollars	4.21	.77	1.23	2.44	5.43*
100-199 dollars	3.10	1.90	1.76	1.57	1.96*
200-299 dollars	1.74	1.06	1.15	1.04	1.99*
300+ dollars	.80	0	1.70	0	2.35*

Bank Check Overdraft Charges (Average Value)

AR	Other	t-Value
$6.21	4.81	1.97*

*Significantly different at the 10 percent confidence level.

SOURCE: CRC 1979 Creditors Surveys

Statistical tests of data on deposit charges compiled by Sullivan [32] were constructed to determine if banks charged their depositors more to use their checking accounts in Arkansas than in other states (Table 3). Charges for the use of checking accounts and for check overdrafts were significantly higher in Arkansas than they were in other states. When one considers that Peterson and Hancock [26] found that banks frequently limited consumer credit to depositors in Arkansas, in lieu of raising loan rates, it makes sense that Arkansas banks charged higher fees on their deposits. In that way they could realize profitable revenues from their joint product activities--deposit services and loans--in spite of the fact that their charges on loans, per se, were limited.

Credit insurance can provide creditors with additional revenues and reduce potential losses to some degree. If credit insurance were profitable, one would expect creditors to offer it. However, rate ceilings permitting, it can either be priced explicitly or offered "free" by incorporating its cost in the finance charge. If rate ceilings are restrictive, one would expect credit insurance to be less frequently offered "free." Also, if rate ceilings were restrictive, and required insurance did not constitute a violation of the rate ceiling (even though, under Regulation Z it was included in the A.P.R.) one might expect creditors to "require" credit insurance more frequently. Thus, one might expect to find credit insurance to be "free" less often and "required" more frequently in Arkansas than in other states.

Table 4 presents data on consumer use of credit insurance and on consumers' perceptions of creditors' marketing practices. The data in Part I refer to consumers' most recent credit acquisitions of $200 or

more. The data in Part II refer to reports by the (three) major auto finance companies.

The data in Part IA of Table 4 indicate that fewer consumers report that they have credit insurance in Arkansas than in the other survey states. The data in Part IB indicate that this is so primarily because credit union borrowers are significantly less likely to have credit insurance in Arkansas than elsewhere. That fact, plus the fact that store and dealer credit (where insurance is infrequently acquired) is much more important as a source of credit in Arkansas, seems to account for the reduced overall credit insurance usage in Arkansas that is documented in Part IA.

Parts IC and ID of Table 4 address credit insurance marketing practices. The chi-squared statistic of part IC indicates that credit insurance is marketed differently in Arkansas than in the other survey states. From inspection of percentage differences in individual responses, it appears that the greatest percentage discrepancies were the following: (1) credit insurance was "recommended" less frequently in Arkansas, (2) credit insurance was "required" more frequently in Arkansas, and (3) credit insurance was offered "free" less frequently in Arkansas. The last two findings are consistent with our expectations. However, when the relative incidence of "free" versus "required" insurance in Arkansas was compared to other survey states in Part ID, the x^2 statistic was not significant.

Finally, Part II of Table 4 indicates that credit contracts purchased by auto finance companies were much more likely to include credit insurance in Arkansas than in other survey states. Because there were so few companies, however, reasonable tests of significance could not be constructed.

TABLE 4

CREDIT INSURANCE USAGE

I. On Most Recent Credit Acquisition of $200 or More

	Residents of: AR	Other States	x^2 (for Yes/No Difference)	Absolute Percentage Difference (high/low value x 100)
A. Had insurance	62.3	72.2	11.670*	

B. Source of Credit (and% of consumers with insurance)

	AR	Other	x^2 (for Yes/No response distribution)
Store or dealer	47.0%	53.6%	0.837
Bank	63.4	69.4	1.711
Finance company	77.2	73.8	0.268
Credit union	71.8	86.9	6.131*

C. Insurance was

	AR	Other	x^2 (for difference in distributions)	
Never mentioned	24.8%	21.2%		17.0%
Mentioned, low key	18.0	15.2		18.4
Recommended	24.8	33.6		35.5
Strongly recommended	8.1	8.8		8.6
Required	15.8	12.0		31.7
Free	6.8	8.3		22.1
Other	1.6	0.7	14.247*	128.6

D. Number reporting "free" versus "required" insurance

	AR	Other	x^2 (for free vs. required distribution)
Free	22	91	
Required	51	132	2.653**

II. Auto Finance Company Paper, Percent of Contracts with Credit Life Insurance

AR	Other
67.5	36.1

*Significantly different at the 10 percent confidence level.

**P = .1034

SOURCE: CRC 1979 Consumer Financial Survey and CRC 1979 Creditors Survey

B. Credit Availability and Restrictions on Credit Terms

Creditors can change credit terms to alter their risk and losses. Restrictions in credit terms reduce the proportion of people who desire and can qualify for consumer credit. If rates cannot be raised, creditors can still ration credit either by rejecting higher risk borrowers or by raising downpayment requirements, shortening credit maturities, or taking other steps to reduce the number of people who qualify for and desire credit on those terms. Such changes in credit terms can be used to reduce defaults and credit collection costs.

1. Credit Terms

Table 5 summarizes available evidence on consumer credit terms. At both commercial banks and credit unions, the average minimum size personal loan that an Arkansas institution would make was two and one-half times or more the average minimum size of loan that non-Arkansas lenders would grant. This difference was highly significant for commercial banks. It reflects the fact that costs of loan origination and servicing cause net yields to fall far below contract rates on relatively small consumer loans (see Peterson [22]). If loan rates cannot be raised sufficiently so that adequate net yields can be earned after loan servicing costs are taken into account, lenders will not make small loans. The statistics suggest that, due to this phenomenon, fewer lenders were willing to make small cash loans in Arkansas than in other states.

The data in Table 5 also suggest that creditors were more likely to require cosignors on loans in Arkansas than elsewhere. While cosignor requirements may reduce loan demand, they also reduce creditors' risk, and thereby can increase the expected rate of return on fixed-rate loans

TABLE 5

CREDIT TERMS

A. Minimum Personal Loan Size Requirements

	AR	Other	t-Value (for difference in means)
Commercial banks	$1,571.52	579.54	8.24*
Credit Unions	280.56	112.86	1.19

B. Cosignors on Most Recent Loans (Consumer Data)

	AR	Other	x^2 (for Yes/No Distributions)
Family Auto Purchase	12.7%	6.7%	6.437*
"Personal" Loan	13.0%	8.0%	2.822*

C. Loan Maturities

Consumer data for	Average Loan Maturity (months) AR	Other	t-Value (for difference in means)
First family car	37.36 mo.	39.07 mo.	2.27*
Second family car	35.41	37.48	1.65

Consumer data on	% of Auto Contracts with maturites over 36 mo. AR	Other	x^2 (for Yes/No Distribution)
First family car	33.9%	38.3%	0.5383
Second family car	20.6%	23.5%	0.0116

Bank data on	% of Banks Making 48-month Auto Loans AR	Other	x^2 (for Yes/No Distribution)
New auto loans	42.9%	87.5%	3.888*
Used auto loans	42.9%	66.7%	

Credit union data on	% of Credit Unions Making 48-month Auto Loans AR	Other	x^2 (for Yes/No Distribution)
State credit union			
new car	36.4	84.0	2.143
used car	18.2	48.4	1.948
Federal credit union			
new car	55.6	55.6	
used car	22.2	33.3	

TABLE 5 (continued)

D. Loan-to-Dealer Cost Ratios

Loan to dealer cost	Group means (%) AR	Other	t-value
Commercial Banks			
36 month new car loan	75.83	85.21	.80
36 month used car loan	78.33	84.29	.48
48 month new car loan	87.50	85.00	-.29
48 month used car loan	90.00	77.00	-1.33
State Credit Unions			
36 month new car loan	83.50	83.18	-.09
36 month used car loan	95.71	85.13	-2.19*
48 month new car loan	83.25	83.87	.13
48 month used car loan	100.00	84.00	-4.34*
Federal Credit Unions			
36 month new car loan	82.50	78.88	-.98
36 month used car loan	91.25	90.25	-.12
48 month new car loan	86.66	79.00	-1.14
48 month used car loan	--	--	--
Auto Finance Companies			
36 month used car loan	93.1	95.9	N.A.
48 month new car loan	88.6	92.2	N.A.

*Significantly different at the 10 percent confidence level.

SOURCE: CRC 1979 Consumer Financial Survey and CRC 1979 Creditors Survey

by reducing expected losses. Thus, it is not surprising that Arkansas creditors, who could not raise rates, more frequently sought to increase expected returns by requiring cosignors.

Creditors may also alter loan maturities to adjust loan risk. Longer maturity loans reduce current cash flows and are usually thought to be potentially more risky for the creditor--as the more distant future is less certain. Many consumers prefer longer maturity credits, however, because they reduce monthly payment requirements.

The evidence presented in Table 5 on consumer credit maturities in Arkansas and other states is mixed. Consumers reported shorter average maturities on their auto loans. Relatedly, a significantly lower percentage of banks made 48-month auto loans in Arkansas. While there was not a statistically significant difference between Arkansas and the other states in the percentage of credit unions that made auto loans of 48-months, only a very small percentage of state-chartered credit unions made such loans in Arkansas. Finally, while a lower percentage of Arkansas residents than in other states had auto loans over 36-months, the difference was not statistically significant. Thus, while the available evidence shows that auto loan maturities were lower in Arkansas than in other states, the differences were not always statistically significant.

Evidence on downpayment ratios was less consistent than evidence on loan sizes, cosigner requirements, and maturities. While auto finance companies generally made loans with more restrictive loan-to-value ratios in Arkansas than in other states, credit unions did the opposite. In addition, bank data were mixed, with Arkansas banks

having more restrictive downpayment requirements on 36-month auto loans, and less restrictive downpayment requirements on 48-month auto loans. The only statistically significant results suggest that state-chartered credit unions made used car loans on more lenient terms in Arkansas. Finally, consumer data (not shown in Table 5) did not show significant differences in downpayment requirements across states. Thus, overall, the evidence does not suggest that, in general, downpayment requirements were more restrictive in Arkansas than in other states.

2. Credit Rejection Rates

Data on credit rejection rates vary according to whether consumer data or creditor data are being considered. Compared to consumers in the three other states, a much larger proportion of Arkansas consumers (28 percent vs. 16 percent) reported that they had been rejected when they applied for consumer credit at some time in the past. The difference was highly significant statistically. In addition, in Arkansas, lower percentages of consumers reported that they could get all the credit they wanted after having been either rejected or granted less credit than desired.

Creditor data did not show uniformly higher rejections for Arkansas consumers, however. On one hand, customer rejection rates at commercial banks often were significantly higher in Arkansas. Rejection rates were also higher at savings and loan associations. On the other hand, customer rejection rates reported by auto finance companies and credit unions were lower in Arkansas than in other states--albeit, they were significantly lower only at Federal credit unions (which could charge equal rates in all states).

One way that these disparate findings can be reconciled (Peterson [23]) is to assume that consumers apply less frequently for credit in Arkansas once they have been rejected for credit. This makes sense if consumers feel that once they have been rejected for ten percent credit they cannot go elsewhere to obtain credit at a higher rate. If this is true, the weak applicants would apply for credit less frequently in Arkansas. As a result creditors would reject a lower portion of applicants, even though a higher portion of the population had been rejected at least once. Another possible explanation for this disparity could be that creditors engage in more "face-screening" in Arkansas. Because credit is not readily available,they might discourage all but obviously creditworthy potential customers from even bothering to fill out a formal application. Consumers' perceptions of rejection, then, might be based on these verbal exchanges, while creditors' statistics would be based only on formal applications for credit. A third possible explanation for these findings is that Arkansas residents may have been more frequently rejected for ten percent credit in their (more risky) youth, but did not experience substantial difficulty in qualifying for ten percent credit once they aged somewhat or learned which types of creditors would be most likely to accept their credit applications. Thus, over their life cycle, a large proportion of consumers may have experienced credit rejection in Arkansas even though creditors rejected a relatively small portion of credit applicants at any point in time.

3. Credit Use

Unless consumers found ways to evade the effects of credit restriction, one would expect that the higher credit rejection rates they

TABLE 6

REJECTION RATES ON CONSUMER LOANS

Rejection Rates Reported by Consumers

	Group Mean (%) AR	Other	t-Value
All consumers (% rejected)	28.0	16.0	6.84*

Consumers that eventually received the credit they wanted after being rejected outright.

Number rejected	11	42
Percent receiving all the credit they wanted	27.3%	40.5%

Consumers that eventually received all the credit they wanted after initially not receiving as much credit as desired.

Number receiving less than they wanted	35	110
Percent eventually obtaining all the credit they wanted	34.3%	37.3%

Rejection Rates Reported by Credit Grantors

Type of loan			
Commercial Banks			
New car	21.83	12.59	+1.92*
Unsecured personal loan	39.66	21.31	+2.63*
First mortgage	28.00	25.90	+ .15
Savings and Loan Associations			
First mortgages	8.33	5.80	+ .92
State Credit Unions			
New car	2.87	5.73	-1.45
Unsecured personal	3.36	7.91	-1.69
Federal Credit Unions			
New car	2.00	15.75	-3.72*
Unsecured personal	4.14	9.33	-1.54
Auto Finance Companies			
New auto financing	13.5	18.3	N.A.
Used auto financing	19.6	31.7	N.A.
Total auto financing	17.0	24.0	N.A.

*Significantly different at the 10 percent confidence level.

SOURCE: CRC 1979 Consumer Financal Survey and CRC 1979 Creditors Surveys

reported could cause them to hold less debt in Arkansas than in the other states surveyed. Table 7 provides evidence on consumers' total debt holdings in column (a). Overall, the data presented in that column indicate that Arkansas residents held as much credit as consumers located in other states. In the aggregate, in fact, the total amount of consumer debt per household held by Arkansas respondents insignificantly exceeded the average amount of consumer debt held by other respondents in the sample. Further, when debt holdings were disaggregated by customer risk (as measured by a major bank's credit scoring system) and income levels, little difference in average debt holdings was apparent--with the exception that two of the three lowest income classes in Arkansas surprisingly held more debt on average than respondents with equivalent incomes in other states. Thus, overall, the data in column (a) do not support the hypothesis that credit is less readily available in Arkansas than in other credit markets--and they are particularly inconsistent with the hypothesis that low income borrowers receive less credit in Arkansas.

The other data provided in Table 7 give a somewhat different picture, however. In particular, the data in column (b) show that, if only cash credit (i.e., credit not obtained from dealers at the point of sale or on credit cards) is considered, Arkansas residents generally held significantly less credit of that sort than residents of other states. The difference is statistically significant for the lowest income borrowers and for two of the three highest-risk deciles of consumers. Thus, the evidence presented in column (b) is consistent with the hypothesis that cash credit will not be readily available--particularly to high-risk borrowers--if rate ceilings are highly restricted.

TABLE 7

TOTAL HOUSEHOLD DEBT HOLDINGS, BY RISK AND INCOME

	(a)Total Consumer Debt Outstanding (Including Credit-Card Debt) Per Household			(b)Non-point-of-Sale Consumer Debt Outstanding (Excludes Dealer-Originated & Credit Card Debt)			(c)Ratio of Point-of-Sale Credit (Including Credit Cards) To Total Consumer Debt--Average Ratio Per Household		
By Credit Risk	AR	Other	t-Value	AR	Other	t-Value	AR	Other	t-Value
Riskiest 5%	1267.00	951.13	-.99	563.28	699.54	.48	.7519	.4644	-3.19*
Next riskiest 5%	1227.52	1698.72	1.35	626.26	807.02	.71	.6226	.4145	-2.04*
Second risk decile	1645.92	1990.74	.91	652.78	1275.69	2.53*	.6862	.3905	-4.01*
Third risk decile	1587.53	1863.42	.76	591.81	1017.21	2.03*	.6483	.5079	-1.81*
Fourth risk decile	1864.98	1545.41	-.95	912.90	928.10	.05	.6861	.5834	-1.39
Fifth risk decile	2468.93	1614.65	-2.19*	935.37	887.29	-.19	.6768	.6100	-.90
Sixth risk decile	1477.73	1729.39	.67	596.88	1238.83	2.60*	.7202	.5446	-2.11*
Seventh risk decile	1288.36	1437.07	.34	535.76	877.12	1.31	.7769	.6025	-2.17*
Eighth risk decile	1246.44	1089.69	-.49	466.08	835.57	1.50	.7911	.6484	-1.76*
Ninth risk decile	1093.39	808.78	-.87	757.32	585.10	-.60	.7829	.6988	-1.05
Least risky ten percent	330.35	308.35	-.15	53.00	179.21	2.21*	.9053	.8989	-.12
By Income	AR	Other	t-Value	AR	Other	t-Value	AR	Other	t-Value
$1-$3500	148.67	150.20	.02	3.55	68.53	2.55*	.9231	.6800	-2.18*
$3501-5500	675.68	188.80	-2.75*	201.97	102.63	-.74	.8529	.7891	-.03
$5501-8250	697.65	406.67	-1.86*	345.29	203.85	-1.09	.7287	.6230	-1.25
$8251-10500	987.00	599.05	-1.65	368.87	391.12	.14	.7841	.5550	-2.56*
$10401-13250	1140.54	1230.90	.36	477.54	636.59	.90	.7524	.6070	-1.82*
$13251-18750	1974.35	1679.14	-.99	858.04	997.89	.62	.7039	.5694	-2.37*
$18751-23750	3027.86	2097.91	-1.98*	1099.26	1232.03	.44	.7030	.5464	-2.53*
$23751-27500	2419.29	2642.78	.45	667.00	1573.96	3.14*	.7610	.5467	-2.77*
Over $27500	2876.48	2664.52	-.45	1430.14	1884.61	1.35	.5657	.5574	-.12
Total	1455.71	1367.68	-0.81	605.59	848.52	3.28*	.7286	.5845	-6.22*

*Significantly different at the 10 percent confidence level.

SOURCE: CRC 1979 Consumer Financial Survey

The disparate findings of columns (a) and (b) can be explained by the fact that consumers have shifted their credit usage toward point-of-sale sources in Arkansas. Since point-of-sale credit is initiated by dealers, they can raise prices on goods to compensate for any losses they incur on their credit operations. Thus, if cash credit is not readily available due to low rate ceilings, we expect borrowers to be able to obtain consumer credit more readily at point-of-sale credit sources. This, in fact, is what happened in Arkansas. Column (c) of Table 7 indicates that the ratio of point-of-sale credit to total consumer credit held by consumers is far higher in Arkansas than in other states. The difference is highly significant statistically, not only in total, but also for many income groups, including the lowest income group and the riskiest three deciles of the population. These results are consistent with the hypothesis that (where credit rates are limited by rate ceilings) point-of-sale credit will be substituted for cash credit by borrowers (particularly risky borrowers) who experience difficulty in obtaining cash credit.

Table 8 addresses the question of how consumers alter their credit sources because of the effect of rate ceilings. In Table 8, point-of-sale credit is separated into dealer instalment sales contracts and credit card credit. Overall, Arkansas residents used significantly more credit of each type than residents of other states. However, in relation to residents of other states, Arkansas customers in the riskiest half of the risk distribution used relatively more dealer sales credit, while Arkansas consumers in the highest-end of the income distribution had more debt outstanding on credit cards. Thus,

TABLE 8

HOUSEHOLD HOLDINGS OF POINT-OF-SALE CREDIT COMPONENTS

	(a) Dealer-Originated Consumer Instalment Debt			(b) Total Credit Card Debt		
By Credit Risk	AR	Other	t-Value	AR	Other	t-Value
Riskiest 5%	585.93	256.58	-1.76*	166.04	98.75	-1.26
Next riskiest 5%	421.62	562.26	.63	189.73	256.73	.73
Second risk decile	704.72	412.50	-1.17	252.54	240.93	- .18
Third	692.94	557.17	- .62	346.32	264.53	- .93
Fourth	803.21	424.02	-1.69*	413.95	227.24	-1.83*
Fifth	1011.53	362.67	-2.19*	490.90	366.24	-1.04
Sixth	616.88	325.07	-1.38	323.84	275.83	- .73
Seventh	330.58	278.57	- .37	341.16	295.13	- .44
Eighth	358.68	167.84	-1.24	445.04	214.24	-1.93*
Ninth	61.21	98.65	.95	279.31	201.25	- .98
Least risky 10%	161.96	0	-1.68*	160.28	150.31	- .22
Annual Income ($)						
1-3500	116.00	46.39	- .75	33.64	33.12	- .03
3501-5500	383.25	45.19	-1.96*	83.02	44.37	-1.38
5501-8250	233.29	122.76	-1.10	135.01	130.27	- .12
8251-10500	372.51	161.41	-1.39	146.34	90.88	-1.18
10501-13250	385.57	342.14	- .25	248.56	204.28	- .75
13251-18750	703.47	449.70	-1.41	378.79	268.74	-1.94*
18751-23750	1339.85	426.83	-2.79*	589.68	369.57	-2.59*
23751-27500	1020.49	576.52	-1.45	510.05	492.09	- .17
Over 27500	699.98	436.77	-1.29	855.09	430.50	-2.44*
Total	539.33	298.72	-3.86*	323.02	243.41	-2.84*

*Significantly different at the 90 percent confidence level.

SOURCE: CRC 1979 Consumer Financial Survey

there was some tendency for the source of point-of-sale credit to vary differently with the risk and income of the consumer in Arkansas than in other states.

Overall, then, we found that the total amount of credit used by Arkansas consumers did not vary from that used by consumers in other states, but that the composition of consumer credit was quite different Cash credit was used less frequently and both credit card credit and dealer originated credit were used more extensively. Thus, consumers in Arkansas, particularly the riskiest consumers, used significantly higher ratios of point-of-sale credit to total credit than consumers in other states.

C. Costs of Related Goods

The greater use of point-of-sale credit relative to cash credit in Arkansas is consistent with the hypothesis that retailers can continue to sell on credit even if credit rates are low because they can increase the price of goods to offset reduced income from finance charges. In previous work, Lynch [15], [16] has found that prices of durable goods in Arkansas averaged several percentage points higher than prices on exactly the same items in major cities in surrounding states. While retailers can raise prices of goods, cash creditors cannot. However, if creditors purchase consumer paper from retailers who issue the credit at the point-of-sale they may be able to raise charges to the retailers to compensate for low interest rates. They also will purchase consumer credit contracts at lower prices (greater discounts) than equivalent contracts with higher finance rates. Retailers, in turn, can pass these on elevated charges and discounts in the form of higher prices on goods with credit sensitive demand.

Data relating to dealer-creditor relationships suggest that creditors did pass on to retailers both extra fees and risk when their interest rates were restricted (Table 9). First, merchant discounts on bank credit cards were higher in Arkansas than in other states, thereby enabling the banks to earn more than ten percent (gross) on their credit card receivables. Second, finance companies received a lower yield on auto credit contracts purchased in Arkansas than in other states. They partially compensated for that fact by eliminating the profit (dealer rate spread) that dealers usually earn by selling their contracts to auto finance companies at a premium. In addition, they apparently made the dealer absorb 100 percent of the credit risk associated with those contracts--as Arkansas was the only state in which all auto finance companies specified in their contracts that they had full recourse to recover from the dealer any credit losses on the contract. These provisions increased Arkansas auto dealers' costs of doing business as well as the risk they incurred. As a result, we hypothesize that Arkansas auto dealers raised prices on their vehicles or took steps to limit their risk on their instalment sales of automobiles.

D. The Structure of the Credit Market

When rate ceilings are restrictive, one would expect that high-risk cash creditors would leave the consumer loan market and high-risk borrowers would obtain credit at the point-of-sale. In this section, we look at the total number of creditors operating in each of the consumer credit markets surveyed to determine how the institutional structure of the credit market in Arkansas differed from other states.

TABLE 9

DEALER-CREDITOR RELATIONSHIPS

	AR	WI	IL	LA
Average Discount Paid on Bank Credit Cards	5.5%	3.3%	2.0%	3.6%
Auto Finance Companies: Rates and Rate Spreads				
48 month, new auto				
Consumer rate	10.0	12.5	13.8	14.1
Creditor rate	10.0	11.9	12.1	12.2
Dealer rate spread	0	0.6	1.7	1.9
36 month, used auto				
Consumer rate	10.0	15.16	17.62	17.61
Creditor rate	10.0	12.55	12.68	12.89
Dealer rate spread	0	2.61	4.94	4.72
Auto Finance Companies, Security Requirements				
Full recourse required?				
Yes(%)	100%	33%	33%	67%

SOURCE: CRC 1979 Consumer Financial Survey and CRC 1979 Creditors Survey

The data in Table 10 indicate that no consumer finance companies operated in Arkansas, while such companies operated in states with higher rate ceilings. Apparently, companies that traditionally serve the higher-risk end of the cash loan market could not operate profitably in a state where rate ceilings were highly restrictive.

A second interesting observation, that can be made from Table 10 is that pawnbrokers were far more prevalent in the Arkansas market than in all other credit markets combined. Pawnbrokers extend small amounts of cash credit. Further, by under-appraising the value of collateral, they can earn a profitable rate of return (on defaulted loans) even if they earn only a ten percent rate of return on pawns that are redeemed. Because of their pricing flexibility and the absence of consumer finance companies in the Arkansas market, it appears that pawnbrokers have entered the market to provide consumers with small cash loans.

In addition to pawnbroker credit, it also appears that many consumers who could not obtain small cash loans used retail credit as a source of funds (Table 7). As a result, the riskiest 30 percent of Arkansas households held significantly higher proportions of retail-originated credit.

IV. Reconciliation of Findings

The data presented in this paper indicate that the ten percent usury law has had a number of effects in Arkansas. Some of the findings were unexpected. For instance, the finding that consumers reported they were more frequently rejected for credit in Arkansas was consistent with the notion that more credit rationing occurs when rate ceilings hold down loan rates. However, the finding that

TABLE 10

STRUCTURE OF CREDIT MARKET

(Total Number of Firms of Each Type in the Market)

	AR	WI	IL	LA	Total
Commercial banks	8	14	7	5	34
Credit unions	54	34	28	21	137
Savings and loan associations	7	5	6	3	21
Consumer finance companies	0	18	13	31	62
Pawnbrokers	7	0	2*	1	10*

*One pawnbroker in Chicago advertised in North Chicago/Waukegan, the other was a local pawnbroker.

SOURCE: CRC 1979 Creditors Surveys

consumers held as much credit in Arkansas as in other states was unexpected given the elevated rejection rates reported in Arkansas.

These potentially disparate findings can be reconciled, however, if retail creditors serve consumers who are rejected for loans by cash lenders. Retail creditors can do so by raising prices on goods to generate any given rate of return on their total (goods plus credit) operations--subject to limitations imposed by competition from retailers who do not offer credit, and other determinants of consumer demand.[5]

Table 11 indicates that a retailer can earn the same cash flow from a good that is sold at a high price on a credit contract that carries a low interest rate as on a good that is sold at a lower price, but with a higher interest rate. Thus, in states where all rates are restricted, retailers can elect to increase cash prices on goods that are typically sold on credit. Such a strategy would let them maintain their cash flows even if nominal rates of return on their credit contracts were held down by low rate ceilings.

Because retailers can adjust cash prices on credit-related goods, as well as interest rates, they generally can charge any price necessary to serve consumers of any given level of risk. Some "inner city" merchants for instance, may double cash prices and still sell goods on credit to customers who otherwise would be too risky to qualify for credit. Similarly, Arkansas merchants should be able to serve relatively risky customers if their cash prices are high enough. Thus, it is not surprising that the riskier borrowers in Arkansas were more likely to use dealer-originated credit than risky borrowers in other states.

TABLE 11

RELATIONSHIP OF INTEREST RATES, PRICES, AND RETAIL CASH FLOWS

Interest Rate	Price of Good	Maturity of Credit Contract*	Monthly Payment (Cash Inflow)*
18%	$1,000	24 mo.	$44.92
15%	$1,029.65	24 mo.	$44.92
12%	$1,060.56	24 mo.	$44.92
10%	$1,081.90	24 mo.	$44.92

*These calculations assume that all consumer credit contracts are repaid as scheduled.

The effect of raising cash prices to compensate for reduced interest revenues cannot be expected to have neutral effects on consumers, however. In particular, the cash price of goods will rise relative to the credit price. Further, credit users will have fewer incentives to repay credit quickly. While higher cash prices may discourage some sales of goods, low credit costs may encourage credit buyers to acquire and retain larger credit balances than would otherwise be the case. As a result of these two effects, consumers may purchase retail goods on credit contracts relatively more frequently and repay their debts more slowly than would be the case in states with higher rate ceilings.[6] This response could account for the fact that Arkansas residents, on average, held just as much consumer credit as residents of other states--in spite of the fact that credit rejection rates were elevated and small cash loans were not readily available in Arkansas.

V. Conclusions

The evidence presented in this paper demonstrates that the ten percent rate ceiling in Arkansas has had a number of effects. Principal findings were that the ten percent Arkansas rate ceiling:

(i) reduced loan rates and increased some (but not all) credit related fees and charges. One of the most interesting findings here was that commercial banks evidently altered their deposit pricing policies in response to restrictive loan rate ceilings;

(ii) eliminated conventional cash creditors who serve high-risk customers from the market, and allowed pawnshops to proliferate;

(iii) caused customers in general and high-risk customers in particular to change their credit sources from cash credit to dealer-originated credit;

(iv) caused consumers to report higher credit rejection rates. However, possibly because of reduced credit search or greater "face-screening," creditors did not consistently report elevated rejection rates. Also, overall, consumers obtained as much credit per household as consumers in other states;

(v) caused some loan terms (principally minimum personal loan sizes, cosignor requirements, and loan maturities) to be restricted but did not have much, if any, effect on downpayments; and

(vi) caused creditor-dealer relationships to become more restrictive from the viewpoint of the dealer. Institutions purchased consumer instalment contracts at higher discounts in Arkansas than in other states and imposed a greater risk of credit loss on auto dealers.

Overall, the principal findings of this study suggest that consumer credit rate ceilings have a much greater effect upon the structure of the consumer credit market, the composition of consumer credit, and the terms of consumer credit contracts than they do on aggregate consumer credit use.

FOOTNOTES

[1]See, for instance, [1], [2], [3], [6], [7], [8], [9], [10], [11], [12], [15], [16], [17], [18], [19], [20], [23], [24], and [32].

[2]See [4], [21], [29], [30], [36].

[3]For instance, Peterson and Sullivan [28] found that consumers in low rate states were less likely to acquire consumer durable goods with their homes. In low rate states, a smaller percentage of consumers total mortgage debt was used to finance durable goods acquisition, and credit card credit usage was elevated relative to mortgage credit use.

[4]The CRC 1979 Consumer Financial Survey is described by Dunkelberg [5] and the CRC 1979 Creditors Surveys are described by Johnson [13], Peterson and Hancock [25], Peterson and Schallheim [27], Sullivan and Dennis [33], Sullivan and Drecnik [34], and Sullivan and Linn [35].

[5]Anecdotal evidence indicates that Arkansas retailers may adjust services as well as prices. For instance, they may charge for delivery or wrapping packages or offer less choice (fewer inventories) in their stores (see Schlendler [31]).

[6]Some anecdotal evidence reported by Schlender [31] is consistent with the notion that consumers will use credit more frequently to buy retail goods in Arkansas. A regional department store chain reported 52 percent of its sales in Arkansas were credit sales, as opposed to 45 percent of its sales in stores located in other states. Presumably, the same type of merchandise would be sold in each store, so interstate differences in credit costs accounted for the difference in credit use.

REFERENCES

1. Avio, K. L. "Economic Rationale for Statutory Interest Rate Ceilings." Quarterly Review of Economics and Business 13 (Fall 1973): 61-72.

2. _____. "On the Effectiveness of Statutory Interest Rate Ceilings." Journal of Finance 29 (December 1974): 1383-96.

3. Blades, H. C., and Lynch, G. C. Credit Policies and Store Locations in Arkansas Broder Cities: Merchant Reactions to a Ten Percent Finance Charge Ceiling. Monograph No. 2, West Lafayette, IN: Credit Research Center, Purdue University, 1976.

4. Dahl, D.S.: Graham, S.L.: and Rolnick, A. J. "Minnesota Usury Law: A Reevaluation." Ninth District Quarterly 4. Minneapolis: Federal Reserve Bank of Minneapolis (Spring 1977): 1-6.

5. Dunkelberg, William C., et al. CRC 1979 Consumer Financial Survey. Monograph No. 22. West Lafayette, IN: Credit Research Center, Purdue University, 1981.

6. Dunkelberg, William C., and DeMagistris, Robin. "Measuring the Impact of Credit Regulation on Consumers." The Regulation of Financial Institutions. Boston: Federal Reserve Bank of Boston and The National Science Foundation, October 1979.

7. Durkin, T. A. "More on an Economic Rationale for Statutory Interest Rate Ceilings." Quarterly Review of Economics and Business 14 (Fall 1974): 95-104.

8. Eisenbeis, R. A. and Murphy, N. B. "Interest Rate Ceilings and Consumer Credit Rationing: A Multivariate Analysis of a Survey of Borrowers." Southern Economic Journal 41 (July 1974): 115-123.

9. Goudzwaard, M. "Price Ceilings and Credit Rationing." Journal of Finance 23 (March 1968): 177-86.

10. Greer, D. F. "Rate Ceilings, Market Structure, and the Supply of Finance Company Personal Loans." Journal of Finance 29 (December 1974): 1363-82.

11. _____. "Rate Ceilings and Loan Turndowns." Journal of Finance 30 (December 1975): 1376-83.

12. Jadlow, J. M. "Economic Rationale for Statutory Interest Rate Ceilings: Comment." Quarterly Review of Economics and Business 15 (Summer 1975): 105-113.

13. Johnson, Robert W. Retailers: CRC 1979 Creditors Survey. Monograph No. 19. West Lafayette, IN: Credit Research Center, Purdue University. 1980.

14. Juster, Thomas and Shay, Robert. Consumer Sensitivity to Finance Rates: An Empirical and Analytical Investigation. New York: National Bureau of Economic Research, 1964.

15. Lynch, G. C. "Consumer Credit at Ten Percent Simple: The Arkansas Case." Law Forum 1968 (Winter, 1968): 592-618.

16. Lynch, G. C. and Hardin, W. F. "The 1974 Arkansas Region Consumer Price Survey." Financial Management Association, 1974. (Mineographed.)

17. National Commission on Consumer Finance. A Lower Rate Maximum for Retail Credit: The Impact on Consumers, by William C. Dunkelberg. Technical Studies Vol. VI. Washington D.C.: Government Printing Office, 1974.

18. _____. An Econometric Analysis of Consumer Credit Markets in the United States, edited by D. F. Greer and R. P. Shay. Technical Stuides, Vol. IV. Washington, D.C.: Government Printing Office, 1973.

19. _____. The Impact of State Legal Rate Ceilings Upon the Availability and Price of Credit, by R. P. Shay. Technical Studies, Vol. IV. Washington, D.C.: Government Printing Office, 1972.

20. _____. Report of the National Commission on Consumer Finance. Washington, D.C.: Government Printing Office, 1973. Chapters 6 & 7.

21. Ostas, J. R. "Effects of Usury Ceilings in the Mortgage Market." Journal of Finance 31 (June 1976): 821-34.

22. Peterson, Richard L. "Consumer Lending by Savings and Loan Associations." Savings and Loan Asset Management Under Deregulation. Proceedings of the Sixth Annual Conference. San Francisco: Federal Home Loan Bank, 1980.

23. _____. "Effects of Creditors' Remedies and Rate Restrictions. The Regulation of Financial Institutions. Boston" Federal Reserve Bank of Boston and the National Science Foundation, October 1979.

24._____. "On the Effectiveness of STatutory Interest RAte Ceilings: Comment." Journal of Finance 32 (December 1977): 1809-10.

25. Peterson, Richard L., and Hancock, John D. Credit Unions: CRC 1979 Creditors Survey. Monograph No. 15. West Lafayette, IN: Credit Research Center, Purdue University, 1980.

26. _____, and Hancock, John D. "Response of Consumer Creditors to Market Interest Rate Changes." 1980. (Mimeographed.)

27. Peterson, Richard L., and Schallheim, James A. Savings and Loan Associations: CRC 1979 Creditors Survey. Monograph No. 16. West Lafayette, IN: Credit Research Center, Purdue University, 1980.

28. Peterson, Richard L., and Sullivan, A. Charlene. "Consumer Use of Mortgage Credit." 1981. (Mimeographed.)

29. Robins, P. K. "The Effects of State Usury Ceilings on Single-Family Home Building." Journal of Finance 29 (March 1974): 227-35.

30. Rolnick, A. J.; Graham, S. L.; and Dahl, D. S. "Minnesota's Usury Law: An Evaluation." Quarterly Review. Minneapolis: Federal Reserve Bank of Minneapolis (April 1975): 16-25.

31. Schlender, Brenton R. "Arkansas Retailers Say Usury Law Threatens Wholesale Closedowns." Wall Street Journal (May 22, 1981): 1 & 14.

32. Sullivan, A. Charlene. Evidence of the Effect of Restrictive Loan Rate Ceilings on Prices of Consumer Financial Services. Working Paper No. 36. West Lafayette, IN: Credit Research Center, Purdue University, 1980.

33. Sullivan A. Charlene and Dennis, Debra K. Commercial Banks: CRC 1979 Creditors Survey. Monograph No. 17. West Lafayette, IN: Credit Research Center, Purdue University, 1980.

34. _____, and Drecnik, Debra A. Sales Finance Companies: CRC 1979 Creditors Survey. Monograph No. 20. West Lafayette, IN: Credit Research Center, Purdue University, 1980.

35. _____, and Linn, Scott C. Consumer Finance Companies: CRC 1979 Creditors Survey. Monograph No. 18. West Lafayette, IN: Credit Research Center, Purdue University, 1980.

36. Yandle, B, Jr., and Procter, J. "Effect of State Usury Laws on Housing Starts: Comments." Journal of Financial and Quantitative Analysis 13 (September 1978): 549-54.